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10/544,136	08/22/2005	Andreas Detlefsen	14219-094US1 P2003 0048 U	7728
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EXAMINER WONG, ALAN				
ART UNIT 2817		PAPER NUMBER		
NOTIFICATION DATE 01/21/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

# Office Action Summary

**Application No.**

10/544,136

**Applicant(s)**

DETLEFSEN ET AL.

**Examiner**

ALAN WONG

**Art Unit**

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-32, 34-40 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39 and 40 is/are allowed.
- 6) ☒ Claim(s) 21-32, 34-38 and 42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/26/2009 has been entered.

### ***Drawings***

2. The drawings are objected to because on the replacement drawing of Fig. 1a, the acoustic paths are labeled numbers 1, 2, 3, while in the original drawing of Fig. 1a, and the specification (Page 5 lines 12-25), the acoustic paths are labeled S1, S2, S3. Correct labeling is required. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after

the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 21, 39, 40, 42 are objected to because of the following informalities:
4. For claim 21 lines 8-9, claim 39 lines 9-10, claim 40 lines 9-10, and claim 42 lines 9-10: "the end-positioned transducer" is being objected because it lacks antecedent basis. Note that "end-positioned transducer" is being recited later in the instant claims. For example, it appears that on claim 21 line 8, "the end" should be --an end-- and on claim 21 line 18 "an end" should be --the end--. The other claims should be similarly changed where needed. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 21-32, 34-38, 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

7. The independent claim 21 as amended recites “a **serial resonator** electrically connected between the first electrical port and the end-positioned transducer, the serial resonator having a constituent transducer and reflectors ... that are directly adjacent to the constituent transducer”. However, there appears to be no support in the original specification for “a **serial resonator**” that have “the reflectors being directly adjacent to the constituent transducer” of the “**serial resonator**” while the first and second serial resonators are electrically connected in series (e.g. first W1, second W2 serial resonators of Fig. 1) as recited in claim 21 lines 15-16. The closest resonator with a transducer and reflectors is resonator W1 and it is not a “**serial resonator**” because it is connected to ground. Note also the first mention in the original specification of such a “serial resonator” is in Fig. 8, Spec. Page 8 lines 10-20, where the first W21 and second W22 serial resonators are **not** electrically connected in series. Consequently, it appears Applicant has amended the independent claims by inserting subject matter which can be construed as new matter.

For the purpose of the prior art rejection, Examiner interpreted the amendment as Applicant's attempt to claim --a resonator--, which would be resonator, W1, in view of, for example, Fig. 1 of the Application.

8. The independent claim 42 as amended recites “a **serial resonator** electrically connected between the first electrical port and the end-positioned transducer, the serial resonator having a constituent transducer and reflectors ... that are directly adjacent to

the constituent transducer". However, there appears to be no support in the original specification for "a **serial resonator**" that have "the reflectors being directly adjacent to the constituent transducer" of the "**serial resonator**" while the second electrical port is connected to an additional acoustic path comprising a first and second transducer that are acoustically coupled with one another, the first transducer and the second transducer being bounded by reflectors, a first signal-conducting terminal of the second electrical port being electrically connected to the first transducer, and a second signal-conducting connection of the second electrical port being electrically connected to the second transducer (e.g. Fig. 11). As shown in Fig. 11, there is no structure, and certainly not a "**serial resonator**" connected between the first asymmetrical port P1 (claim 42 lines 3-4) and end-positioned transducer MW31, or MW32 (claim 42 lines 9-10). Consequently, it appears Applicant has amended the independent claims by inserting subject matter which can be construed as new matter.

9. However, if Applicant disagrees that the above noted subject matter is new matter, then Applicant is required to provide an explanation as to why these limitations should not be considered new matter, as well as providing the location(s) in the original specification where there is support for the subject matter in question.

#### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 21-24, 26-29, 31, 32, 34, 37, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mita et al. JP2001-292050, in view of Davenport US 5,486,800 (both of record), for reasons of record.

12. With respect to claims 21-24, 26, 28, 29, 31, 32, 34, 35, 37, 38, please refer back the office action mailed on 3/18/2009 for the details of this rejection (see Para. 10-24).

Regarding the new limitation, Mita/Davenport combination disclose **a resonator** (Davenport: Fig. 3 parallel resonator 310, which is part of the ladder filter that had replaced Mita's ladder 137 on Fig. 11, which also contain parallel resonator) between the first electrical port and an end-positioned transducer (Mita: port 136c and end-position transducer 131), and having a constituent transducer (Davenport: transducer 306) and reflectors (not shown in Fig. 3 but see Col. 1 lines 66-67) that bound the constituent transducer on both sides, the reflectors being directly adjacent the constituent transducer (transducer 306 is shown as single transducer and as exemplary shown in Fig. 5, for a single transducer, for example, transducer 502, the reflectors 524, 526 are directly adjacent the transducer, therefore reflectors directly adjacent to transducer 306 would also be applicable).

13. For claim 27, Mita/Davenport combination discloses the ladder portion with two serial transducers and a parallel transducer (Davenport: Fig. 1 item 302, 304, 306). Davenport also shows ladder filter with additional series transducers (i.e. more stages; Davenport: Fig. 6 item 606, 608) in the acoustic path being connected in series. It would have been obvious to have Mita/Davenport's ladder filter portion to have more stages, thereby to have obtained additional series transducers in the acoustic path as it

would have been well known in the art to have more stages for ladder filter depending on the desired filter characteristics also evidenced by other art of record (see e.g. Ehara, US 6,377,140, Col. 1 lines 62-65). Since the series transducers of the ladder filter would be in series with the first coupler transducer (Mita: Fig. 11 item 132) of the DMS path, the additional series transducer would also be electrically connected in series with the first coupler transducer of the DMS path.

***Response to Arguments/Amendments***

14. Applicant's arguments filed 10/26/2009 have been fully considered but they are not persuasive.
15. With the filing of certified English translation of the foreign priority document, the rejection based on with Bauer WO03/081773 has been withdrawn.
16. For claims 21-24, 26, 28, 29, 31, 32, 34, 35, 37, 38, 42, Applicant's arguments of **"a serial resonator"** over the prior art reference is moot since the **"a serial resonator"** is not supported by the original disclosure. See **"New matter"** rejection above. For purpose of the office action, Examiner has simply read this as --a resonator--, see the prior art rejection above.
17. For claims 39 and 40, the amendments are persuasive and the rejections were withdrawn.

***Allowable Subject Matter***

18. Claims 39, 40 are allowed.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN WONG whose telephone number is (571)272-3238. The examiner can normally be reached on Mon-Thurs 10am-7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AW

/Robert Pascal/  
Supervisory Patent Examiner, Art Unit 2817